Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for exchanging information frames over a network ~~(N)~~ between a plurality of devices ~~(D)~~, each device of the plurality of devices comprising a communication circuit ~~(C)~~ connected to a processing unit ~~(P_A)~~ and comprising a plurality of addresses ~~($X_1, \ldots, X_J$)~~, each address being associated with one of a transmission indicator or a reception indicator, ~~a single device comprising a same address associated with a transmission indicator,~~ wherein each address is associated with a memory containing an information frame that can be at least one of modified ~~and/or~~ and read by the processing unit and wherein only a single device of the plurality of devices includes one of the plurality of addresses associated with the transmission indicator, ~~and~~ the method comprising the steps of:

having a master device ~~(M)~~ periodically transmit an address of the plurality of addresses; and

responsive to transmission of the address by the master device:

having the communication circuit of the device for which the address transmitted by the master device is associated with [[a]] the transmission indicator transmit the information frame contained in the memory associated with ~~said~~ the address and provide ~~the~~ its processing unit with an identifier ~~(I)~~ of ~~said~~ the address; and

having ~~each~~ the communication circuit of [[a]] each device for which the address transmitted by the master device is associated with [[a]] the reception indicator write into the memory associated with ~~said~~ the address ~~of said~~ the information frame and provide ~~the~~ its processing unit with an identifier ~~(I)~~ of ~~said~~ the address.

2. (Currently Amended) The method of claim 1, wherein the processing units ~~(P_A)~~ of each of the plurality of devices, except for the processing unit of the master device ~~(M)~~, can

neither read nor modify the plurality of addresses ~~(X_1, …, X_J)~~ and the transmission and/or reception indicators of the communication ~~circuits (C)~~ circuit to which they are connected.

3. (Currently Amended) The method of claim 1, wherein all communication circuits ~~(C)~~ further comprise a first address ~~(X_{J+2})~~ identical for all devices ~~(D)~~ and associated with a transmission indicator and a second address ~~(X_{J+1})~~ identical for all devices and associated with a reception indicator, the connection of a new device ~~(D')~~ to the network ~~(N)~~ comprising the steps of:

having the master device ~~(M)~~ periodically transmit the first address;

having the communication circuit ~~(C)~~ of the new device, upon reception of the first address, transmit an identification frame ~~(CS_Transmission)~~;

having the master device successively transmit the second address and a parameterizing frame ~~(CS_Reception) defined~~ based on the identification frame; and

having the communication circuit of the new device, upon successive reception of the second address and of the parameterizing frame, modify its addresses ~~(X_1, …, X_J)~~ and reception and/or transmission indicators based on the parameterizing frame.

4. (Currently Amended) The method of claim 3, wherein each device ~~(D)~~ of the plurality of devices comprises a specific identification number ~~(U)~~ stored in the communication circuit of the device ~~(C)~~, the identification frame ~~(CS_Transmission)~~ transmitted by the communication circuit of the new device ~~(D')~~ comprising the specific identification number of ~~said~~ the new device, the parameterizing frame ~~(CS_Reception)~~ transmitted by the master device ~~(M)~~ comprising the specific identification number of ~~said~~ the new device.

5. (Currently Amended) The method of claim 3, wherein the communication circuit ~~(C)~~ of the new device ~~(D')~~ transmits no data as long as it has not received the first address ~~(X_{J+2})~~.

6. (Currently Amended) The method of claim 3, wherein the communication circuit ~~(C)~~ of each device ~~(D)~~ comprises a privilege indicator ~~(Privilege Bit P)~~ at a first value when the

device is ~~likely to transmit~~ capable of transmitting addresses ~~(X_1, …, X_N)~~ over the network ~~(N)~~ and at a second value otherwise, said privilege indicator being set to the first or to the second value by the communication circuit of the new device ~~(D')~~ based on the parameterizing frame ~~(CS_Reception)~~.

7. (Currently Amended) A device ~~(D) intended to~~ that can be connected to a network ~~(N)~~, comprising:

a communication circuit ~~(C) and~~ connected to a processing unit ~~(P_A), comprising~~ and including an address table ~~(Address)~~, a register table ~~(Data)~~, and a direction table, each register ~~(R_1, …, R_J)~~ in the register table being associated with an address ~~(X_1, … X_J)~~ in the address table and [[a]] the direction table comprising one direction indicator per address, said processing unit being capable of reading information frames stored into the registers or writing information frames in the registers, said communication circuit being capable, upon reception of a request received from the network and corresponding to one of said addresses, of transmitting over the network the information frame stored in the register associated with said address ~~if~~ in response to the corresponding direction indicator ~~is of~~ being a first determined type, ~~or~~ of writing an information frame received from the network into the register associated with said address ~~if~~ in response to the corresponding direction indicator ~~is of~~ being a second determined type, and ~~being capable~~ of transmitting to ~~the~~ said processing unit an identifier of the register associated with said address.

8. (Currently Amended) The device ~~(D)~~ of claim 7, wherein the address table ~~(Address)~~ comprises a first address ~~(X_{J+2})~~ identical for all ~~the~~ devices connected to the network ~~(N)~~, the direction table ~~(Direction)~~ comprising a direction indicator associated with said first address of the first determined type, the communication circuit ~~(C)~~ of the device being adapted to transmitting said addresses ~~(X_1, … X_J)~~ and the associated direction indicators over the network ~~(N)~~ upon reception of said first address.

9. (Currently Amended) The device ~~(D)~~ of claim 8, wherein the address table ~~(Address)~~ comprises a second address ~~(X_{J+1})~~ identical for all ~~circuits~~ devices connected to the network ~~(N)~~, the direction table ~~(Direction)~~ comprising a direction indicator associated with said second address of the second determined type, and being capable, upon successive reception of ~~the~~ said second address and of a parameterizing frame ~~(CS_Reception)~~, of modifying ~~the~~ said addresses ~~(X_1, …, X_J)~~ and the associated direction indicators based on the parameterizing frame.